

WHAT IS CLAIMED IS:

1. A gaming machine comprising dividend determining means for determining a dividend to be paid to a bettor who has won a lottery with a predetermined probability, said lottery including a plurality of objects with predetermined probabilities of winning, and for indicating the dividend to the bettor, said dividend determining means comprising:

setting means for setting a target payout rate and the probability of winning of each of the objects and for setting odds on each of the objects based on the target payout rate and the probability of winning;

ordering means for arranging the objects in order of the probability of winning;

first correction means for approximately correcting the odds on the object in the highest place to odds with a predetermined number of digits, correcting the probability of winning of the object in the highest place based on the corrected odds, reflecting the difference between the uncorrected probability of winning and the corrected probability of winning of the object in the probability of winning of the object in the subsequent place, redetermining the odds on the object in the subsequent place based on the corrected probability of winning of the object in the subsequent place, and repetitively performing the whole

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processing for the objects in all places; and

second correction means for approximately correcting the redetermined odds on the object in last place to odds with a predetermined number of digits, redetermining the probability of winning based on the approximated odds, and again reflecting the difference between the probability of winning and the redetermined probability of winning at predetermined ratios in the probabilities of winning of all the objects.

2. A gaming machine according to Claim 1, further comprising:

determining means for determining whether a payout rate based on the corrected probabilities of winning and the corrected odds is within a predetermined allowable range of the target payout rate;

wherein, when the determination by said determining means is negative, said dividend determining means resets the probabilities of winning and again performs the processing.

3. A gaming machine according to Claim 1, wherein said second correction means again reflects the difference between the probability of winning and the redetermined probability of winning in the probabilities of winning of

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corrected odds, reflecting the difference between the uncorrected probability of winning and the corrected probability of winning of the object in the probability of winning of the object in the subsequent place, redetermining the odds on the object in the subsequent place based on the corrected probability of winning of the object in the subsequent place, and repetitively performing the whole processing for the objects in all places; and

second correction means for approximately correcting the redetermined odds on the object in last place to odds with a predetermined number of digits, redetermining the probability of winning based on the approximated odds, and again reflecting the difference between the probability of winning and the redetermined probability of winning at predetermined ratios in the probabilities of winning of all the objects.

6. An operation method for a gaming machine for determining a dividend to be paid to a bettor who has won a bet on a race with a predetermined probability, the race including a plurality of objects with predetermined probabilities of winning, and for indicating the dividend to the bettor, said operation method comprising the steps of:

setting a target payout rate and the probability of winning of each of the objects and setting odds on each of

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the objects based on the target payout rate and the probability of winning;

rearranging data on the objects in descending order of the probability of winning; and

performing correction processing with said gaming machine, said correction processing including the steps of:

approximately correcting the odds on the object with the highest probability of winning to numeric data with a predetermined number of digits;

correcting the probability of winning based on the corrected odds;

obtaining the difference between the uncorrected probability of winning and the corrected probability of winning;

reflecting the difference in the probability of winning and in the odds on the object in the subsequent place;

repetitively performing the whole processing until the object with the lowest probability of winning is processed; and

allocating the difference in the probabilities of winning of the last object among the corrected probabilities of winning of the objects at predetermined ratios.

7. An operation method for a gaming machine for

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determining a dividend to be paid to a bettor who has won a bet on a lottery with a predetermined probability in straight betting and quinella betting, said lottery including a plurality of objects with predetermined probabilities of winning, and for indicating the dividend to the bettor, said operation method comprising the steps of:

setting a target payout rate and a probability of winning of each of straight bets and quinella bets and setting odds on each of the straight bets and the quinella bets based on the target payout rate and the probability of winning;

rearranging data on the quinella bets in descending order of the probability of winning;

approximately correcting the odds on the quinella bet with the highest probability of winning to numeric data with a predetermined number of digits, correcting the probability of winning based on the corrected odds, obtaining the difference between the uncorrected probability of winning and the corrected probability of winning, reflecting the difference in the probability of winning and in the odds on the quinella bet in the subsequent place, repetitively performing the whole processing until the quinella bet with the lowest probability of winning is corrected, and allocating the difference in the probabilities of winning of the last quinella bet in accordance with the corrected

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probabilities of winning of the quinella bets;

reflecting the corrected probabilities of winning of the quinella bets in the probabilities of winning of the straight bets and redetermining the odds on the straight bets;

rearranging data on the straight bets in descending order of the probability of winning; and

performing correction processing with said gaming machine, said correction processing including the steps of:

approximately correcting the odds on the straight bet with the highest probability of winning to numeric data with a predetermined number of digits;

correcting the probability of winning based on the corrected odds;

obtaining the difference between the uncorrected probability of winning and the corrected probability of winning;

reflecting the difference in the probability of winning and in the odds on the straight bet in the subsequent place;

repetitively performing the whole processing until the straight bet with the lowest probability of winning is corrected; and

allocating the difference in the probabilities of winning of the last straight bet in accordance with the

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corrected probabilities of winning of the straight bets.

8. An operation method according to Claim 7, wherein, when actual payout rates based on the corrected probabilities of winning and the corrected odds on the straight bets and the quinella bets are not within a predetermined range of the target payout rate, the probabilities of winning in straight betting and quinella betting are reset and the correction processing is performed again.

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9. An operation method for a gaming machine for determining a dividend to be paid to a bettor who has won a bet on a race with a predetermined probability, the race including a plurality of objects with predetermined probabilities of winning, and for indicating the dividend to the bettor, said operation method comprising the steps of:

setting a target payout rate and the probability of winning of each of the objects and setting odds on each of the objects based on the target payout rate and the probability of winning;

rearranging data on the objects in order; and

performing correction processing with said gaming machine, said correction processing including the steps of:

approximately correcting the odds on the object in



allocating the difference in the probabilities of winning of the last object in accordance with the corrected probabilities of winning of the objects.

reflecting the corrected probabilities of winning and the corrected odds in quinella betting in probabilities of winning and odds in straight betting; and

redetermining provisional probabilities of winning and provisional odds in straight betting by the correction processing while maintaining the corrected odds and the corrected probabilities of winning in quinella betting.

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